AMD FirePro W600

User Guide

Part Number: 51633_enu_1.0

© 2012 Advanced Micro Devices Inc. All rights reserved.

The contents of this document are provided in connection with Advanced Micro Devices, Inc. ("AMD") products. AMD makes no representations or warranties with respect to the accuracy or completeness of the contents of this publication and reserves the right to discontinue or make changes to products, specifications, product descriptions, and documentation at any time without notice. No license, whether express, implied, arising by estoppel or otherwise, to any intellectual property rights is granted by this publication. Except as set forth in AMD's Standard Terms and Conditions of Sale, AMD assumes no liability whatsoever, and disclaims any express or implied warranty, relating to its products including, but not limited to, the implied warranty of merchantability, fitness for a particular purpose, or infringement of any intellectual property right. AMD's products are not designed, intended, authorized or warranted for use as components in systems intended for surgical implant into the body, or in other applications intended to support or sustain life, or in any other application in which the failure of AMD's product could create a situation where personal injury, death, or severe property or environmental damage may occur. AMD reserves the right to discontinue or make changes to its products at any time without notice.

Trademarks

AMD, the AMD Arrow logo, ATI, the ATI logo, AMD Athlon, AMD LIVE!, AMD Opteron, AMD Phenom, AMD Sempron, AMD Turion, AMD64, All-in-Wonder, AMD Avivo, AMD Catalyst, AMD CrossFire, AMD CrossFireX, AMD FirePro, AMD FireStream, AMD HyperMemory, AMD OverDrive, PowerPlay, AMD PowerXpress, AMD Radeon, Remote Wonder, SurroundView, Theater, The Ultimate Visual Experience, Vari-Bright, and combinations thereof are trademarks of Advanced Micro Devices, Inc.
HyperTransport is a licensed trademark of the HyperTransport Technology Consortium.
HDMI is a licensed trademark of HDMI Licensing, LLC.
PCI Express and PCIe are registered trademarks of PCI-SIG Corporation.
Linux is a registered trademark of Linus Torvalds.
DirectX, Microsoft, Windows, and Windows Vista are registered trademarks of the Microsoft Corporation in the United States and/or other jurisdictions.
OpenCL is a trademark of Apple Inc. used by permission by Khronos.
Other names are for informational purposes only and may be trademarks of their respective owners.

Dolby Laboratories, Inc.

Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are registered trademarks of Dolby Laboratories.

© 1992-1997 Dolby Laboratories, Inc. All rights reserved.

Rovi Corporation

This device is protected by U.S. patents and other intellectual property rights. The use of Rovi Corporation's copy protection technology in the device must be authorized by Rovi Corporation and is intended for home and other limited pay-per-view uses only, unless otherwise authorized in writing by Rovi Corporation. Reverse engineering or disassembly is prohibited.

Disclaimer

While every precaution has been taken in the preparation of this document, Advanced Micro Devices, Inc. assumes no liability with respect to the operation or use of AMD hardware, software or other products and documentation described herein, for any act or omission of AMD concerning such products or this documentation, for any interruption of service, loss or interruption of business, loss of anticipatory profits, or for punitive, incidental or consequential damages in connection with the furnishing, performance, or use of the AMD hardware, software, or other products and documentation provided herein. Ensure that you have the latest documentation.

Important Safety Instructions

Note: This product is for use only with compatible UL-listed personal computers that have installation instructions detailing user installation of this class of product.

Read all instructions before beginning installation. All safety and installation instructions should be read before the product is installed or operated.
Retain all instructions. Safety, installation, and operating instructions should be retained for future reference.
Heed all warnings. All warnings regarding the product and its operating instructions should be obeyed.
Use appropriate grounding.

Caution:

For continued protection against the risk of electric shock and fire, install this accessory only in products equipped with a three-wire grounding plug, a plug having a third (grounding) pin. This is a safety feature. Do not remove the grounding pin of a three-pin plug.

Attach product securely. All product-securing screws or fasteners should be completely tightened in order to provide continuous bonding between the product and the PC chassis, as appropriate.

© **2012** Advanced Micro Devices, Inc.

Contents

Chapter 1 Getting Started 1

1.1 System Requirements 1

1.2 Performing a Quick Installation 1

1.3 Before You Begin Installation 2

1.3.1 Recording Serial Numbers 2

1.3.2 Uninstalling Previous Drivers in Windows 7 or Windows Vista 2

Chapter 2 Hardware Installation 5

2.1 Installing a PCI Express Graphics Card 5

2.2 Baseplate Connections 7

2.3 Display Configurations 7

2.3.1 Multiple Displays 8

2.4 Using Adapters 9

Chapter 3 Drivers and Software Installation 11

3.1 AMD Drivers and Software 11

3.2 Installing AMD Drivers and Software in Windows 7 or Windows Vista 11

Chapter 4 Using the Control Center Software 13

4.1 Control Center Overview 13

4.2 Starting the Control Center Software 13

4.3 Using the Control Center Help System 14

4.4 Configuring a Display with Catalyst Pro Control Center 14

Chapter 5 Reference 17

5.1 Workstation Card Troubleshooting 17

5.1.1 Computer does not boot up properly. 17

5.1.2 There is no display. 17

5.1.3 There are screen defects. 18

5.1.4 The screen image is off-center or there are odd colors. 18

5.1.5 The operating system warns that the graphics card isn't properly configured. 18

5.1.6 There are bus address or interrupt conflicts. 18

5.2 Workstation Customer Care 19

5.2.1 Web 19

5.2.2 E-mail 19

5.2.3 Telephone 19

5.2.4 Surface Mail 20
5.2.5 Disclaimer 20
5.3 Workstation Warranty Service 21
5.3.1 Shipping 21
5.3.2 Limitations 21
5.4 Additional Accessories 22
5.5 International Compliance Information 22
5.5.1 FCC Compliance Information (USA) 22
5.5.2 Industry Canada Compliance Statement (Canada) 23
5.5.3 CE Compliance Information (European Union) 24
5.5.4 Electrical Safety 24
5.5.5 VCCI ITE Compliance Information (Japan) 25
5.5.6 KC Certification Information (Korea) 26
5.5.7 BSMI Certification Information (Taiwan) 26
5.5.8 C-Tick (Australia and New Zealand) 27
5.5.9 Product Environmental Compliance 27
5.5.10 Waste Electrical and Electronic Equipment (WEEE) Directive Compliance (European Union) 28

Appendix A Glossary - Workstation Products 29

© **2012** Advanced Micro Devices, Inc.

Chapter 1

Getting Started

Before you begin installing your new AMD FirePro W600 graphics card, please make sure you have the proper system requirements and have completed the required preinstallation tasks as outlined in this chapter.

1.1 System Requirements

Table 1–1 AMD FirePro W600 System Requirements

Hardware	• AMD Athlon™/AMD Opteron™ or IntelPentium® 4/Xeon processor. • 128 MB of system memory; 256 MB or more recommended for best performance. • Motherboard with available ×16 lane PCI Express® connection slot • Internet access for software installation.
Operating System	• 32- or 64-bit Windows® 7 • 32- or 64-bit Windows Vista®. • 32- or 64-bit Linux®
Monitor	• DisplayPort display. • DVI digital flat-panel (DFP) display. • HDMI™ display (using third-party adapter).

Note: This product is not tested or certified on Windows® XP, which supports a maximum of two displays.

1.2 Performing a Quick Installation

Experienced users and system administrators can follow these brief instructions for installing this AMD FirePro product.

Other users should refer to the detailed installation instructions, starting with Chapter 2 Hardware Installation (p. 5).

1. Uninstall the drivers and software for any installed graphics card(s).

   Note: If you are using a motherboard containing an on-board graphics solution and do not intend to use it as part of a multiple monitor display, disable it.

2. Shut down and disconnect your computer system.
3. Remove any installed graphics card(s).
4. Install your new AMD FirePro graphics card.
5. Reassemble and connect your computer system.

6. Install the AMD FirePro drivers and configuration software from the AMD Installation disc.

1.3 Before You Begin Installation

Once you have determined that your system meets the minimum requirements, please perform the following tasks before installing your AMD FirePro W600 workstation graphics card.

1.3.1 Recording Serial Numbers

The serial number and 102 part number on the graphics card are required for product registration. They are located on a sticker on the back of the graphics card and are shown in boldface and underlined in the illustration below.

Record these numbers in the space provided below and retain for future use.

1. Remove the graphics card from packing.
2. Locate the white label on the back of the graphics card.
3. Record the serial number and 102 part number.

Figure 1–1 Typical Serial Number and 102 Part Number Arrangement

1	Serial number (S/N)
2	102 part number (P/N)

1.3.2 Uninstalling Previous Drivers in Windows 7 or Windows Vista

Follow these steps to uninstall the existing graphics card driver in Windows 7 or Windows Vista in preparation for installation of a new card.

1. With the current graphics card still in the computer, close all open applications.

© 2012 Advanced Micro Devices, Inc.

2. Click **Start ▹ Control Panel**. Double-click **Programs and Features** and then select the graphics card driver from the list of software programs.
3. Double-click **Hardware and Sound** and then double-click **Device Manager**.
4. Expand **Display Adapter** and then right-click the driver for the graphics card you are replacing.
5. In the shortcut menu that appears, click **Uninstall**.
   The driver for the old graphics card is uninstalled.
6. Turn off the system.

© **2012** Advanced Micro Devices, Inc.

© **2012** Advanced Micro Devices, Inc.

Chapter 2

Hardware Installation

This chapter details how to install your AMD FirePro W600 card in your system.

Note: AMD recommends that you install/upgrade all AMD FirePro hardware products in your system before you install/upgrade your drivers and the AMD Accelerated Parallel Processing (APP) Software Development Kit (SDK).

2.1 Installing a PCI Express Graphics Card

Please read all installation instructions completely before you begin.

If your computer has on-board graphics, you may need to disable it through the BIOS configuration. For more information, see your motherboard documentation.

Note: Always handle a graphics card with care when adding or removing it from your system.

- Never twist or bend your card.
- Avoid interference from the card's fan housing with mechanical hinges or clips inside your system's chassis.
- Make sure that the PCIe® card slot-locking mechanism on the motherboard is unlocked or open before inserting or removing a card. Please consult your motherboard manual for instructions, if necessary.

1. Turn off your computer, monitor(s), and other peripheral devices.
2. Unplug the computer's power cord, and then disconnect all cables from the back of the computer.

   Caution:

   Wait approximately 20 seconds after unplugging the power cord before disconnecting a peripheral cable or removing a component from the motherboard to avoid possible damage to the motherboard.

3. Remove the cover to your computer's case.

   Note: If necessary, consult your computer's manual for help in removing the cover.

   Caution:

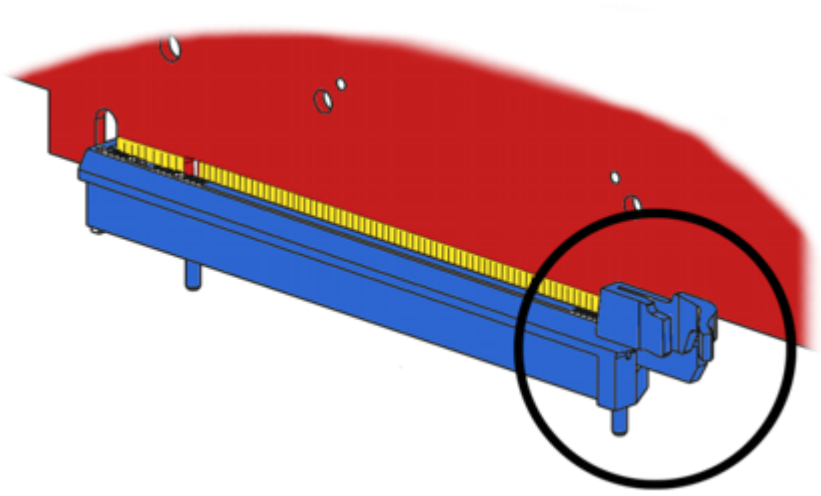
   Static electricity can seriously damage computer components. Discharge your body's static electricity by touching the power supply or the metal surface of the computer chassis before you touch any components inside your computer's case to avoid damaging them.

4. Unscrew or unfasten and remove any existing graphics card from your computer, if necessary.

Caution:

Make sure the PCIe card slot-locking mechanism is unlocked or open before trying to remove a graphics card. Failure to do so may damage the card and/or the motherboard. This locking mechanism may be hidden from view by a card's fansink.

Figure 2–1 Example PCIe Card Slot-locking Mechanism



5. Locate the appropriate slot and, if necessary, remove the metal back-plate cover. Make sure all internal cables are clear of the slot.
6. Align your AMD FirePro graphics card with the PCIe slot and press it in firmly until the card is fully seated. You may need to hold open the PCIe card slot-locking mechanism with your finger when you seat the card.
7. Screw in or fasten the graphics card securely.
8. If your card requires supplementary power and must be connected directly to the power supply, locate the appropriate power connector cable (or cables) from the power supply and connect it (or them) to the graphics card's supplementary power connector(s), which are usually located in the upper corner of the card.

   Note: Before installing a card that requires a supplementary power connection, make sure your existing power supply has such a connection available.
9. Make sure no internal cables are interfering with components inside the computer (for example, a cooling fan) and replace the computer cover.
10. Reconnect any cables that were disconnected during installation and plug in the computer's power cord.
11. Turn on the monitor, and then your computer.

© 2012 Advanced Micro Devices, Inc.

If you have properly installed your graphics card, operating system messages will appear and the boot procedure will proceed.

Your monitor will be running in a basic (VGA) video mode. Higher refresh rates are not available at this stage of the installation. Once you have installed the AMD FirePro drivers and software, you can use the Windows® **Display Properties** dialog to adjust your video settings and configure multiple monitors.

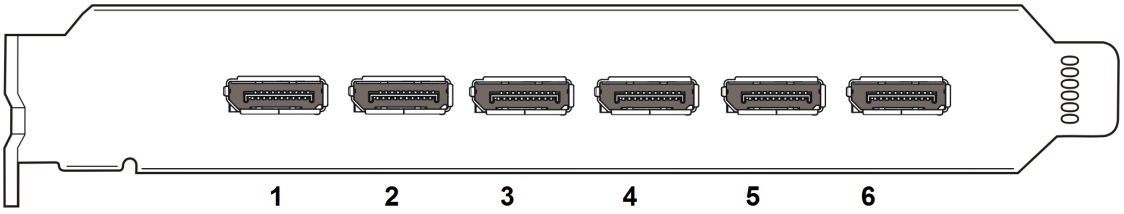
Proceed to install the software and drivers for your AMD FirePro graphics card.

2.2 Baseplate Connections

The following figures show the display connections available on your graphics card.

Note: Baseplate may not appear exactly as depicted.

Figure 2–2 AMD FirePro W600 Baseplate Connections



1	Mini-DisplayPort
2	Mini-DisplayPort
3	Mini-DisplayPort
4	Mini-DisplayPort
5	Mini-DisplayPort
6	Mini-DisplayPort

2.3 Display Configurations

The following table lists options for attaching displays that are indirectly supported by the connections on your graphics card.

For best graphics performance and quality, always use native connections, when available.

Note: Adapters not provided with your graphics card can be purchased directly from AMD's Web site or through your local AMD resellers.

Display Configuration	Card Connection Used	Comments
Mini DisplayPort display	Mini DisplayPort connection	
DisplayPort display	Mini DisplayPort connection with Mini DisplayPort-to-DisplayPort connection	
DFP (DVI) display	Mini DisplayPort connection with Mini DisplayPort-to-DVI adapter (single- or dual-link)	DFP = digital flat-panel
HDMI™ display	Mini DisplayPort connection with Mini DisplayPort-to-HDMI adapter	
CRT (VGA) display	Mini DisplayPort connection with Mini DisplayPort-to-VGA adapter	CRT = cathode ray tube (analog) display

Note: Six mini DisplayPort-to- DVI adapter (single-link) adapters are included with your AMD FirePro W600. Other adapters must be purchased individually.

If your graphics card includes a DisplayPort or Mini DisplayPort connection, you can the following types of DisplayPort-compliant adapters/dongles with your graphics card:

- Adapters—Uses DisplayPort signals to transmit audio and video information between variants of the same connection type (for example, Mini DisplayPort to standard DisplayPort).
- Active dongles—Allows connection from a DisplayPort connection to a non-DisplayPort display using DisplayPort signals.
- Passive dongles—Allows connection from a DisplayPort connection to a non-DisplayPort display using non-DisplayPort signals.

The type of adapter/dongle used determines the number of displays that can be supported by your graphics card. In general, more displays can be supported with DisplayPort adapters and active dongles than with passive ones.

Note: A list of compatible adapters/dongles for your graphics card can be found at: http://support.amd.com/us/eyefinity/Pages/eyefinity-dongles.aspx.

2.3.1 Multiple Displays

Your AMD FirePro W600 graphics card provides display functionality for up to six displays through six Mini DisplayPort connections in Windows® 7, Windows Vista®, or Linux®.

The following table shows some examples of multiple display configurations; (A) indicates an active adapter is used and (P) indicates a passive adapter is used. Display abbreviations are mDP = Mini DisplayPort, DP = DisplayPort, sDVI = single-link DVI, and dDVI = dual-link DVI.

© 2012 Advanced Micro Devices, Inc.

Table 2–1 Sample Display Configurations

Sample Display Configuration	mDP Connector	mDP Connector	mDP Connector	mDP Connector	mDP Connector	mDP Connector	Total Output
mDP-mDP-mDP-mDP-mDP-mDP	Native	Native	Native	Native	Native	Native	6
DP-DP-DP-DP-DP-DP	mDP to DP (A)	mDP to DP (A)	mDP to DP (A)	mDP to DP (A)	mDP to DP (A)	mDP to DP (A)	6
dDVI-dDVI-dDVI-dDVI-dDVI-dDVI	mDP to DVI (A)	mDP to DVI (A)	mDP to DVI (A)	mDP to DVI (A)	mDP to DVI (A)	mDP to DVI (A)	6
VGA-VGA-VGA-VGA-VGA-VGA	mDP to VGA (A)	mDP to VGA (A)	mDP to VGA (A)	mDP to VGA (A)	mDP to VGA (A)	mDP to VGA (A)	6
mDP-mDP-DP-DP-dDVI-VGA	Native	Native	mDP to DP (A)	mDP to DP (A)	mDP to DVI (A)	mDP to VGA (A)	6
DP-DP-DP-DP-HDMI	mDP to DP (A)	mDP to DP (A)	mDP to DP (A)	mDP to DP (A)	mDP to HDMI (P)	No connection	5
dDVI-dDVI-dDVI-VGA-HDMI	mDP to DVI (A)	mDP to DVI (A)	mDP to DVI (A)	mDP to VGA (A)	mDP to HDMI (P)	No connection	5
mDP-mDP-mDP-dDVI-sDVI	Native	Native	Native	mDP to DVI (A)	mDP to DVI (P)	No connection	5
sDVI-sDVI	mDP to DVI (P)	mDP to DVI (P)	No connection	No connection	No connection	No connection	2
HDMI-HDMI	mDP to HDMI (P)	mDP to HDMI (P)	No connection	No connection	No connection	No connection	2

Note: HDMI audio is limited to a single display (the last HDMI device connected).

Adapters not included with your AMD FirePro W600 can be purchased directly from AMD's Web site (http://www.amd.com) or through your local AMD resellers.

Active displays will supersede passive displays. For example, if you connect a DisplayPort display to a system that already has two passive single-link DVI displays, one of the single-link DVI displays will deactivate.

Additional configuration information can be found at:

http://www.amd.com/us/products/workstation/graphics/

A list of compatible adapters/dongles for AMD FirePro products can be found at:

http://support.amd.com/us/eyefinity/Pages/eyefinity-dongles.aspx

Important: Windows® XP supports a maximum of **two** displays; for greater display functionality, you must use Windows 7, Windows Vista, or Linux.

2.4 Using Adapters

Your AMD FirePro W600 includes adapters to enable you to attach display types other than those included on the baseplate or cables.

Use the following procedure to attach a display using an adapter.

1. Turn off your computer and monitor.
2. Plug the adapter into the connection from your AMD FirePro card and tighten the thumbscrews (if there are any).
3. Connect your display's cable to the adapter and tighten the thumbscrews (if there are any).
4. Turn on your monitor first, then your computer.

Use the Control Center application to configure the new monitor, should you need to do so.

© **2012** Advanced Micro Devices, Inc.

Chapter 3

Drivers and Software Installation

This chapter describes the installation of the drivers and software associated with your AMD FirePro workstation graphics card.

3.1 AMD Drivers and Software

Drivers are small but important programs that enable an operating system to communicate with a piece of hardware, such as a graphics card.

When you install a new graphics card, you must also install the driver and configuration software the card requires to function properly.

You also need to install (or reinstall) your AMD FirePro drivers when you have reinstalled or upgraded your operating system or when you install updated drivers from AMD's Web site.

Note: When reinstalling drivers, always uninstall any previous drivers that are on your system, even if they are for the same graphics card. Always start "fresh."

3.2 Installing AMD Drivers and Software in Windows 7 or Windows Vista

In order to install the drivers and software necessary for your AMD FirePro W600 card to function properly, the following must be true:

- You must download the correct driver from the AMD website http://www.amd.com
- Your AMD FirePro W600 card must be physically installed in your computer.
- Your operating system must be installed and operational.
- You must log in as a user with administrator rights.

1. Turn on your monitor and then turn on your computer. Wait for your operating system to boot up. You may receive a warning that the graphics driver failed to install. Close this dialog.
2. Run the Setup utility by doing the following:
   a. In the task bar, click the **Start** (Windows® icon) button.
   *The **Start Menu** opens.*
   b. Select **All Programs** ▸ **Accessories** ▸ **Run**.
   *The **Run** dialog appears.*

c. Select **Browse** and select `setup.exe` from the folder in which you have saved the driver download.
`setup.exe` *appears in the* ***Open*** *field of the* ***Run*** *dialog.*

d. Click **OK**.

Note: The **User Account Control** dialog may appear; if so, click **Continue**. The **Catalyst Install Manager** dialog may prompt you to close all open applications; if so, do so.

3. In the **Software Install** dialog, click **Install**.
4. Click **Next**.
The installation wizard will start.
5. Follow the wizard's on-screen instructions to complete the installation:
   - Select **Express** to install typical drivers and software.
   - Select **Custom** to choose individual software components for installation.

   Note: The Custom installation option is recommended for advanced users only.
6. Click **Yes** to the license agreement.
7. When installation is complete, select **View Log** to review installation details. Click **Finish** when are done; reboot your computer when prompted.
Your computer will reboot.

Proceed to configure your video settings and connect additional monitors, if necessary.

© **2012** Advanced Micro Devices, Inc.

Chapter 4

Using the Control Center Software

4.1 Control Center Overview

The Control Center software application contains settings for configuring and fine-tuning your AMD product. Use it to manage desktops and displays, optimize your graphics processor for enhanced 3D application and video quality, and configure your CPU for improved power savings or system performance. You can also use the performance tools in the application to monitor and manage clock speed and memory use for your graphics card to ensure that your AMD product is configured and running as efficiently as possible.

The application provides a Standard View for guided configuration and an Advanced View for quick and easy access to all available features and settings. It also provides a search feature for finding specific pages, as well as the ability to bookmark pages by pinning them within the application.

The following is a list of common configuration tasks that can be completed using the application:

- Adding and removing displays
- Rotating displays
- Setting the main (primary) display
- Duplicating and extending desktops
- Arranging desktops
- Enabling and disabling 3D application and video settings

More information on the application and its available features are provided through the comprehensive Control Center help system. For information on accessing the help system, see Using the Control Center Help System (p. 14).

Note: Feature availability varies between AMD products and operating systems.

4.2 Starting the Control Center Software

You can use any of the following methods to start the Control Center software application.

Table 4–1 Control Center Access Routes

Access Route	Instructions
Windows® Desktop	1. Right-click anywhere on the desktop. 2. From the shortcut menu that appears, click the Control Center option.
Windows Start Menu	1. Click **Start** on the Windows task bar. 2. Click **All Programs** followed by the Control Center option.
Windows Notification Area	1. Right-click the Control Center icon in the Windows Notification Area. 2. From the shortcut menu, click the Control Center option.
Desktop Shortcut	If you chose to create a desktop shortcut to the Control Center application during the driver installation, double-click the shortcut.

4.3 Using the Control Center Help System

The help system that is available with the Control Center software application provides detailed usage information and tips for configuring your AMD product. The help system also provides conceptual information on the technologies that are available for your product.

Use the following steps to access the help system.

1. Open the Control Center application.
2. Choose one of the following options:
   - Set the mouse focus to the application window (by clicking the window) and press F1 on your keyboard.
   - Click the Help button (shown as a question mark) located in the titlebar of each page within the application.
   - Right-click the Control Center icon in the Windows taskbar notification area (system tray), and click **Help**.

The help system opens to provide context-sensitive help for the current page or general usage information.

4.4 Configuring a Display with Catalyst™ Pro Control Center

A display must be connected to your computer before it can be configured.

The following is a basic procedure for configuring a display in Catalyst Pro Control Center's Advanced view. For detailed instructions and a complete list of configuration options, refer to the help system available with Catalyst Pro Control Center.

Note: A simplified version of this procedure is available through the Catalyst Pro Control Center Basic view using the **Setup my display configuration** option in the **Easy Setup Wizards** Tab.

© **2012** Advanced Micro Devices, Inc.

1. Open Catalyst Pro Control Center in the Advanced view.

   Note: For more information, see Starting the Control Center Software (p. 13).

2. Select the **Desktops & Displays** page.

   The **Desktops & Displays** page is the central location for configuring displays and arranging desktops (the workspace shown on a display). It contains a display palette and desktop arrangement area that you can use to select the display or desktop that you want to configure.

   Note: Depending on the version of Catalyst Pro Control Center and operating system you are running, the settings on the **Desktops & Displays** page may be found on the **Displays Manager** page instead. For more information about this page, refer to the help system available with Catalyst Pro Control Center.

3. Configure your displays as necessary:

   - Change the primary display—In the desktop arrangement area, right-click the desktop associated with the display that you want to set as primary, and click **Make Primary**.
   - Enable a display—In the display palette, right-click the display that you want to enable, and click **Duplicate** or **Extend** as appropriate.

     Click **Duplicate** to copy an existing desktop onto the selected display; you may need to select the display that you want to duplicate. Click **Extend** create a unique desktop for the selected display; this desktop can have its own background image, resolution, and refresh rate.
   - View and change properties such as display size, refresh rate, color settings, and supported HDTV resolutions—In the display palette, right-click the display that you want to configure, and click **Configure**. In the property page that appears, modify the necessary settings.

     Caution:

     Choosing a refresh rate that your monitor does not support may damage your monitor. Consult your monitor's documentation, if necessary.
   - To rotate your desktop—In the desktop arrangement area, right-click the desktop that you want to rotate, and click **Rotate**.

4. Click **Apply**.

© **2012** Advanced Micro Devices, Inc.

Chapter 5

Reference

This chapter provides notices, troubleshooting tips, and customer care, warranty, and standards-compliance information.

5.1 Workstation Card Troubleshooting

The following troubleshooting tips may help if you experience problems.

More troubleshooting information can be found on the AMD Web site http://support.amd.com/.

5.1.1 Computer does not boot up properly.

Verify that the installation instructions were properly followed. In particular, if external power is required, make sure that the external power cable (or cables) is properly connected.

Check that the card is properly installed in your system and connected to your monitor.

If you have problems during start-up, restart your computer in Safe Mode. While starting Windows® XP, press and hold **F8** until you see the **Advanced Options Menu**. Use the arrow keys to select **Safe Mode**, and press **Enter**.
Check the system configuration utility of your operating system for the interrupt assignments.

Contact AMD's Customer Care or your local technical support.

5.1.2 There is no display.

Make sure the card is seated properly in its slot. If external power is required, make sure that the external power cable (or cables) is properly connected to the card.

Make sure that the monitor cable is securely fastened to the card.

Make sure that the monitor and computer are plugged in and receiving power.

If necessary, disable any built-in graphics capabilities on your motherboard. For more information, consult your computer's manual or manufacturer.

Note: Some manufacturers do not allow the built-in graphics to be disabled or to become the secondary display.

Make sure that you selected the appropriate monitor when you installed your enhanced driver.

Make sure that the display resolution and refresh rate settings you have selected are supported by the monitor you have connected.

5.1.3 There are screen defects.

Make sure your monitor supports the resolution and horizontal (kHz) and vertical (Hz) refresh rates as required by the graphics card. Check your current resolution, refresh rate, and color depth settings in the Settings and Monitor tabs in your Display Properties dialog.

Caution:

Ensure that both the graphics card and monitor support the resolution and refresh rates you select. Incompatible resolution/refresh rate selection may result in monitor damage. Refer to your monitor's documentation for recommended resolutions and refresh rates.

5.1.4 The screen image is off-center or there are odd colors.

Try adjusting the brightness, sharpness, contrast, and color balance controls of your monitor.

Try adjusting the centering and positioning controls of your monitor to position the picture on the screen.

Set the monitor's RGB inputs (and sync switches, if this option is available) to 75 Ohms, with the sync set to external.

DFP monitor users: Make sure that the DVI plug of your monitor data cable is digital-only (DVI-D), not integrated analog/digital (DVI-I). Refer to your monitor's documentation and contact your supplier or the manufacturer of the DFP monitor for information on how to obtain a suitable data cable plug.

5.1.5 The operating system warns that the graphics card isn't properly configured.

Make sure that the display resolution and refresh rate settings you have selected are supported by the monitor you have connected.

Check the driver installation and make sure that all software is correctly loaded corresponding to your operating system and applications.

Reinstall the drivers for your graphics card.

5.1.6 There are bus address or interrupt conflicts.

Make sure that the I/O and memory addresses reserved for the graphics board are not used by other hardware devices. The integrated on-board VGA controller of your AMD FirePro card uses the following addresses (hex):

- **I/O Address:** Standard VGA I/O: 3B0-3DF
- **Memory Addresses:** Video RAM: A000-BFFF, Video ROM: C000-C7FF

© 2012 Advanced Micro Devices, Inc.

You cannot change the addresses of your AMD FirePro card. In case of an address conflict, try to modify the I/O address of the add-on card that causes the conflict.

To support the special graphics processor on the AMD FirePro card, the system BIOS should automatically assign a system interrupt to the slot where the card is installed. However, there may be problems if your graphics card does not receive an interrupt or a system interrupt is used for more than one device. In case of problems, check the system configuration utility of your operating system for the interrupt assignments.

5.2 Workstation Customer Care

If you experience difficulties with your AMD FirePro product, you can contact AMD Customer Care in the following ways.

5.2.1 Web

The AMD Customer Care Web site has number of helpful resources, including a knowledgebase of FAQs and the AMD FirePro Workstation Graphics Web Ticket Submission Page.

The Web site is complimentary and available at all times. The address is support.amd.com.

5.2.2 E-mail

Customer Care is available by e-mail at tech.support@amd.com. E-mails must have "workstation-support" in the subject line. This service is complimentary for registered users.

5.2.3 Telephone

Country	Telephone Number	Language/Times	Notes
US/Canada East Coast	1-866-284-2093	English: 9:00AM - 5:30PM EST (Mon-Thu) 9:00AM - 3:00PM EST (Fri)	Complimentary for registered users. Toll-free.
US/Canada West Coast	408-749-2005	English: 2:30PM - 5:00PM PST (Mon-Thu) 12:00PM - 4:00PM PST (Fri)	Extended hours for West Coast customers; East Coast toll-free number also available. Complimentary for registered users. International and local toll charges to California will apply.
United Kingdom	+44 (0)1276-803299	English: 10:30 - 17:00 CET (Mon-Fri)	Complimentary for registered users. International and local toll charges to the U.K. will apply.
France	0800-908-621	French/English: 10:30 - 17:00 CET (Mon-Fri)	Complimentary for registered users. Toll-free.

Country	Telephone Number	Language/Times	Notes
Italy	800-877-224	Italian/English: 10:30 - 17:00 CET (Mon-Fri)	Complimentary for registered users. Toll-free.
Germany	+49 (0)89-4505-3199	German/English: 10:30 - 17:00 CET (Mon-Fri)	Complimentary for registered users. International and local toll charges to Germany will apply.
Argentina	+0800-333-5277	Portuguese/Spanish: 7:00AM - 3:30PM EST (Mon-Fri) English: 7:00AM - 7:00PM (Mon-Fri)	Complimentary for registered users. Toll-free.
Brazil	+0800-891-9068	Portuguese/Spanish: 7:00AM - 3:30PM EST (Mon-Fri) English: 7:00AM - 7:00PM (Mon-Fri)	Complimentary for registered users. Toll-free.
Mexico	+001800-514-3276	Portuguese/Spanish: 7:00AM - 3:30PM EST (Mon-Fri) English: 7:00AM - 7:00PM (Mon-Fri)	Complimentary for registered users. Toll-free.
Other Latin American Countries	+1-905-882-3277	Portuguese/Spanish: 7:00AM - 3:30PM EST (Mon-Fri) English: 7:00AM - 7:00PM (Mon-Fri)	Complimentary for registered users. International and local toll charges to Canada will apply.

Note: Customer Care telephone support lines are closed for regional statutory holidays.

5.2.4 Surface Mail

Advanced Micro Devices Inc.
Attention: Customer Care
1 Commerce Valley Drive East
Markham, Ontario
L3T 7V9 CANADA

This service is complimentary.

5.2.5 Disclaimer

AMD Customer Care will work to resolve your issue and help you to get your product up and running. If your issue is not resolved, our technicians will determine whether the difficulty you are experiencing is the result of the product, whether your product contains a defect, and whether your product should be returned to AMD for warranty service.

© **2012** Advanced Micro Devices, Inc.

AMD Customer Care is unable to assist with refunds, returns, or exchange-specific inquiries. If resolving the problem being experienced is critical to your decision to keep the product, it is your responsibility to ensure that you know and are within the period of time your reseller will allow for refunds, returns, or exchange.

AMD is not responsible for any expense incurred accessing Customer Care. It is expected that customers will review the expense associated with the available support options and will choose the method that best meets their needs and budget.

AMD Customer Care reserves the right to limit support options for products that are not registered or are at End of Life.

5.3 Workstation Warranty Service

For warranty service instructions visit http://support.amd.com or contact one of our Customer Service Representatives.

5.3.1 Shipping

Before shipping any unit for repair, obtain an RMA number for warranty service.

When shipping your product, pack it securely, show the RMA and serial number of the product on the outside, and ship prepaid and insured.

AMD will not be held liable for damage or loss to the product in shipment.

Standard warranty service consists of repair upon receipt.

AMD reserves the right to replace the product with a serviced product at their sole discretion at any time.

You are responsible for the cost of shipping the product to AMD. AMD pays the cost of returning the product to you.

Products which are repaired under warranty are guaranteed for the remainder of the original warranty period. Repairing or exchanging a product does not start a new warranty period. If, at the time of repair, a product is already “out of warranty” or within the last 90 days of the warranty period, AMD will guarantee the repair for the full 90 days. All other terms and conditions of the original warranty apply.

5.3.2 Limitations

This warranty is valid only if the online Product Warranty Registration form at http://support.amd.com is successfully submitted within 30 days of purchase of said product.

All warranties for this product, expressed or implied, will expire three (3) years from date of original purchase.

All accompanying cables and accessories are warranted for 90 days.

No warranties for this product, expressed or implied, shall extend to any person who purchases the product in a used condition.

The liability of AMD in respect of any defective product will be limited to the repair or replacement of such product. AMD may use new or equivalent-to-new replacement parts. Defective product will be sent in for repair or replacement only. AMD makes no other representations or warranties as to fitness for a particular purpose, merchantability or otherwise in respect of the product. No other representations,

warranties or conditions, shall be implied by statute or otherwise. In no event shall AMD be responsible or liable for any damages, including but not limited to the loss of revenue or profit, arising:

- From the use of the product, as a result of any event, circumstance, action or abuse beyond the control of AMD; whether such damages be direct, indirect, consequential, special or otherwise and whether such damages are incurred by the person to whom this warranty extends or a third party
- From the loss of use of the product, as a result of any event, circumstance, action or abuse beyond the control of AMD; whether such damages be direct, indirect, consequential, special or otherwise and whether such damages are incurred by the person to whom this warranty extends or a third party.

Unauthorized repairs to an AMD board level product will void the warranty offered by AMD. AMD reserves the right to refuse to service any product which has been altered, modified, or repaired by non-AMD service personnel.

5.4 Additional Accessories

Additional and replacement cables, installation CDs, manuals, and other accessories for AMD products can be purchased from local AMD resellers or the online AMD store at http://www.amd.com.

5.5 International Compliance Information

This section details the worldwide compliance information for this product, which is manufactured to be compliant in the regions where it is sold.

AMD products are either Class A or Class B compliant and are indicated accordingly on the compliance label for each product. The following regulatory information applies to Class A and Class B products.

5.5.1 FCC Compliance Information (USA)

Class A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are design to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case, the user will be required to correct the interference at his own expense.

© 2012 Advanced Micro Devices, Inc.

Warning:

Changes or modifications to this device not expressly approved by Advanced Micro Devices, Inc. could void the user's authority to operate the equipment.

FCC Part 15, Subpart B, Class A

Class B

This product complies with FCC Rules Part 15. Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The use of shielded cables for connection of the monitor to the graphics card is required to ensure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC 15, Subpart B, Class B

For further compliance information:

Advanced Micro Devices, Inc.
1 AMD Place
P.O. Box 3453
Sunnyvale, CA 94088-3453
USA Tel: 408-749-4000

5.5.2 Industry Canada Compliance Statement (Canada)

Class A

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

Class B

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

5.5.3 CE Compliance Information (European Union)

Class A

Warning:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

EMC Directive 2004/108/EC

CISPR 22/EN 55022–Class A: Limits and methods of measurement of radio disturbance characteristics of Information Technology Equipment.

CISPR 24/EN 55024–Information Technology Equipment–Immunity Characteristics—Limits and Methods of Measurements

Class B

EMC Directive 2004/108/EC

CISPR 22/EN 55022—Class B: Limits and methods of measurement of radio disturbance characteristics of Information Technology Equipment.

CISPR 24/EN 55024—Information Technology Equipment—Immunity Characteristics —Limits and Methods of Measurements

5.5.4 Electrical Safety

Europe: The Low Voltage Directive–2006/95/EC

- EN 60950-1–Safety of Information Technology Equipment

USA/Canada:

- UL 60950-1 (Information Technology Equipment–Safety—Part 1: General Requirements)
- CSA C22.2 No. 60950-1 (Information Technology Equipment—Safety–Part 1: General Requirements)

International:

- IEC 60950-1 (Information Technology Equipment–Safety-Part 1: General Requirements)

To meet UL safety requirements, the computer's maximum room temperature should not exceed 40 ℃.

This product complies with the PCI Express 300W Electromechanical Specification — please refer to the manufacturer for additional information. Other relevant input power data will also be available.

© 2012 Advanced Micro Devices, Inc.

5.5.5 VCCI ITE Compliance Information (Japan)

Class A

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。
ＶＣＣＩ－Ａ

Translation:

This is a Class A product based on the standard of the VCCI Council. If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

VCCI V-3

Class B

この装置は、クラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。
ＶＣＣＩ－Ｂ

Translation:

This is a Class B product based on the standard of the VCCI Council. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

VCCI V-3

5.5.6 KC Certification Information (Korea)

Class A

A급 기기 (업무용 정보통신기기)

이 기기는 업무용으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이 점을 주의하시기 바라며, 만약 잘못판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

Translation:

"Class A" Equipment (Business purpose info/telecommunications equipment)

As this equipment has undergone EMC registration for business purpose, the seller and/or buyer is asked to beware of this point and in case a wrongful sale or purchase has been made, it is asked that a change to household use be made.

KN22 and KN24

Class B

B급기기(가정용 방송통신기기)
이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

Translation:

"Class B" Equipment (Household purpose info/telecommunications equipment)

As this equipment has undergone EMC registration for household purpose, this product can be used in any area including residential area.

KN22 and KN24

5.5.7 BSMI Certification Information (Taiwan)

Class A

© 2012 Advanced Micro Devices, Inc.

警告使用者：
這是甲類的資訊產品，在居住的環境中使用
時，可能會造成射頻干擾，在這種情況下，
使用者會被要求採取某些適當的對策。

Translation:

This is a Class A Information Product, when used in residential environment, it may cause radio frequency interference, under such circumstances, the user may be requested to take appropriate countermeasures.

CNS13438

Class B

CNS13438

5.5.8 C-Tick (Australia and New Zealand)

ACMA — Australian Communications and Media Authority

- Radiocommunications Act 1992 (Australia)—per notices of section 182
- AS/ NZS CISPR 22

5.5.9 Product Environmental Compliance

This product may carry a marking similar to those below that indicates its level of compliance with China RoHS standards.

For information on China RoHS, EU RoHS, or EU REACH compliance, please refer to Product Environmental Compliance on the AMD Web site.

5.5.10 Waste Electrical and Electronic Equipment (WEEE) Directive Compliance (European Union)

This product was manufactured by Advanced Micro Devices, Inc.

© **2012** Advanced Micro Devices, Inc.

Appendix A

Glossary - Workstation Products

2D
: Acronym for “two dimensional,” a term applied to computer graphics that are “flat.” Typical desktop applications such as word processors, spreadsheet programs, or other programs that manipulate print or simple graphics (such as pictures or line art) are generally considered to be operating within a 2D environment, even when they include simple three dimensional elements, such as buttons.

3D
: Acronym for “three dimensional,” referring to computer graphics that appear to have volume and depth. Various modeling processes take the representation of a three dimensional object provided by the computer program and render it by using various lighting components, applying textures, and setting layers of transparency or opacity as required in order to produce a realistic representation of a three-dimensional object on a two-dimensional display.

Aspect Ratio
: The proportions of a display are expressed as a ratio of its width and height. Common ratios include 4:3 for TVs and CRTs, 5:4 for LCDs, and 16:9 for widescreen displays.

Bit Depth
: Refers to the number of data bits required to store color information about a pixel. Larger bit depth means a greater range of color information is capable of being encoded into each pixel. For example, 1 binary bit of memory can only encode to either “0” or “1.” So a graphical bit depth of 1 means that the display can only show two colors, the black and white of a monochrome display. Four-bit color depth is capable of displaying 16 colors because there are only 16 different combinations of 4 bits (0000, 0001, 0010... to 1111). Sixteen-bit color is capable of reproducing 65,536 colors, 24-bit color can display up to 16,777,216 individual colors, and 30-bit color can display up to one billion individual colors.

Buffer
: A name referring to portions of on-board video memory. One large buffer is always used to display images to the screen; this is the “display buffer.” The rest of offscreen memory is typically used by applications as back buffers, z-buffers, and texture buffers.

Catalyst™ Control Center
: Catalyst™ Control Center (CCC) is a graphical user application providing access to the display features contained within the installed AMD hardware and software. CCC can be used to fine-tune various graphics settings, enable or disable connected display devices, change the orientation of a desktop, and much more.

CRT

Acronym for “cathode ray tube,” which is the main component of computer monitors and TVs. Color CRTs use three separate electron beams fired through a shadow mask and onto the back of the glass screen. The electron beams activate separate red, green, and blue values in various strengths in order to produce a colored image.

DisplayPort

DisplayPort is a digital display standard that became a VESA-approved standard in May 2006. HDMI™ is aimed primarily at the consumer electronic market, but DisplayPort was designed with computer displays in mind. It is scalable and extensible in terms of pixel depth and resolution, designed to work as a comprehensive solution both for PCs and notebooks, which currently use different signaling standards (DVI and LVDS). DisplayPort is designed as a long-term comprehensive replacement for VGA, providing a cost-effective, scalable, industry standard which will consolidate external (box-to-box) and internal (LCD panel) display connections.

DVI

Acronym for “Digital Video Interface,” a standard video connection used on many current computer displays. There are three types of DVI connections: DVI-A (analog), DVI-D (digital), and DVI-I (integrated, capable of either analog or digital). It supports high-bandwidth video signals over 160 Hz, so it is most often used for high-resolution displays.

Frame Buffer

The portion of the memory buffer on the graphics card used to store the image being displayed. All rendering processes have been accomplished by this stage and this buffer contains only a one-to-one relationship of the data to be relayed to the display.

Frames Per Second

In terms of 3D graphics, refers to the rate at which the graphic processor can render new screens per second. Higher rates equals better, more naturalistic performance for such things as games set in a 3D environment. Sometimes abbreviated to “fps.”

GPU

GPU is an acronym for “Graphics Processing Unit.” The GPU powers the operations of a graphics card including support for 2D/3D and video.

HDCP

HDCP is an acronym for “High-Bandwidth Digital Copy Protection.” It is a form of digital rights management designed to protect copyright of signals being transported across DVI or HDMI™ connections. Several international regulatory bodies have recommended its incorporation into high-definition display and playback devices.

HDMI™

HDMI™ is an acronym for “High Definition Multimedia Interface.” It is a 19-pin connector used for transferring combined digital audio and video. HDMI™ supports standard, enhanced, and high-definition digital video signals, and is designed for use with VCRs, DVD players, personal computers, and set-top boxes. A DVI adapter can be used to transfer the video signal to an HDMI™-capable display, although audio must be transferred from a different route, as DVI output does not support audio.

© **2012** Advanced Micro Devices, Inc.

HydraVision™

HydraVision™ is AMD's multi-monitor management software, enabling users to manage the display of multiple windows and applications across two or more adjacent monitors. It also includes a range of productivity features designed to effectively manage applications in this environment.

PCI Express® (PCIe®)

The successor standard to the PCI and AGP bus standards, with a significantly faster serial communications system, further opening up bandwidth for more communications between such peripherals as graphics cards and the computer's CPU. PCIe® cards can come in several physical configurations, the fastest currently being X16, which is typically used for graphic cards, and X1, typically used for other peripherals, such as separate multimedia cards.

Pixel

All computer images are made up of tiny dots. Each individual dot is called a pixel, a word created from the term "picture element." A pixel is the smallest indivisible unit of a digital image and can be only a single color. The size of the pixel depends on how the display resolution has been set. The smallest size a pixel can be is determined by the display's dot pitch, which is measured in millimeters (mm).

Refresh Rate

Also referred to as "vertical refresh rate." This is the rate at which a monitor or television can redraw the screen from top to bottom. NTSC television systems have a refresh rate of approximately 60 Hz whereas computer displays typically have refresh rates of 75 Hz or more. At refresh rates of 70 Hz and lower, screen flicker is often noticeable.

Rendering

Rendering refers to the final drawing stages where the 2D image that appears on a display is derived from its 3D descriptions. What appears on the display may look three dimensional, but it is really just a 2D grid of pixels designed to appear that way.

Resolution

The resolution of any display is the number of pixels that can be depicted on screen as specified by the number of horizontal rows against the number of vertical columns. The default VGA resolution of many video cards is capable of displaying 640 rows of pixels by 480 columns. The typical resolution of current displays is set to higher values, such as 1024×768 (XGA), 1280×1024 (SXGA), or 1600×1200 (UXGA).

VGA Connector

A type of graphics connector, sometimes also called an analog connector. It is the most common type of video connector available, consisting of 15-pins set in three rows. VGA is an acronym for "Video Graphics Array," which is also the name for the video resolution mode of 640x480 pixels, the lowest standard resolution supported by virtually all video cards.

© **2012** Advanced Micro Devices, Inc.